

**RECEIVED
CENTRAL FAX CENTER****JAN 11 2010****SIEMENS****Fax**

To: Special Programs Examiner
Attn: Examiner Yuen

Fax: 571-273-4856

Date: January 11, 2010

Pages: 45 (including cover sheet) total

From: Vicki Chia

Title: Patent Assistant to Jenny G. Ko

Company: Siemens Corporation

Dept: Intellectual Property

Phone: 650-694-5333

Fax: 650-968-4517

Email: Vicki.chia@siemens.com

RE: Recreation of appln. 09/657,635 (attorney docket no. 2000P82261US)

Message:

There may have been a disruption in the fax transmission causing part of the copies to not have been sent. Attached is the rest and should be 44 pages, in total, including our earlier transmission, 64 pages.

Kind regards,

Vicki Chia

Siemens Corporation

1230 Shorebird Way, Bldg. 3
Mountain View, CA 94043

www.siemens.com

JAN 11 2010



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20531
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/657,635	09/06/2000	Ismayil M. Guracar	2000P82261 US	1723
7590	08/12/2002		EXAMINER	
			JAWORSKI, FRANCIS J	
			ART UNIT	PAPER NUMBER
			3737	

DATE MAILED: 08/12/2002

Elsa Keller
SIEMENS CORPORATION
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The patent term adjustment to date is 181 days. If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the term adjustment will be 181 days.

If a continued prosecution application (CPA) was filed in the above-identified application, the filing date that determines patent term adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system. (<http://pair.uspto.gov>)



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20501
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/657,635	09/06/2000	Ismayil M. Guracar	2000P82261 US	1723
7590	08/12/2002		EXAMINER	
			JAWORSKI, FRANCIS J	
			ART UNIT	PAPER NUMBER
			3737	

DATE MAILED: 08/12/2002

Elsa Keller
SIEMENS CORPORATION
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830
UNITED STATES

Notice of Fee Increase on October 1, 2002

If a reply to a "Notice of Allowance and Fee(s) Due" is filed in the Office on or after October 1, 2002, then the amount due may be higher than that set forth in the "Notice of Allowance and Fee(s) Due" since there will be an increase in fees effective on October 1, 2002. See Revision of Patent and Trademark Fees for Fiscal Year 2003: Notice of Proposed Rulemaking, 67 Fed. Reg. 30634, 30636 (May 7, 2002). Although a change to the amount of the publication fee is not currently proposed for October 2002, if the issue fee or publication fee is to be paid on or after October 1, 2002, applicant should check the USPTO web site for the current fees before submitting the payment. The USPTO Internet address for the fee schedule is: <http://www.uspto.gov/main/howtofees.htm>.

If the issue fee paid is the amount shown on the "Notice of Allowance and Fee(s) Due," but not the correct amount in view of the fee increase, a "Notice to Pay Balance of Issue Fee" will be mailed to applicant. In order to avoid processing delays associated with mailing of a "Notice to Pay Balance of Issue Fee," if the response to the Notice of Allowance and Fee(s) due form is to be filed on or after October 1, 2002 (or mailed with a certificate of mailing on or after October 1, 2002), the issue fee paid should be the fee that is required at the time the fee is paid. If the issue fee was previously paid, and the response to the "Notice of Allowance and Fee(s) Due" includes a request to apply a previously-paid issue fee to the issue fee now due, then the difference between the issue fee amount at the time the response is filed and the previously paid issue fee should be paid. See Manual of Patent Examining Procedure, Section 1308.01 (Eighth Edition, August 2001).

Effective October 1, 2002, 37 CFR 1.18 is proposed to be revised to change the patent issue fees as set forth below. As stated above, the final fees may be a different amount, and applicant should check the web site given above when paying the fee.

(a) Issue fee for issuing each original or reissue patent, except a design or plant patent:

By a small entity (Sec. 1.27(a))--\$655.00
By other than a small entity--\$1,310.00

(b) Issue fee for issuing a design patent:

By a small entity (Sec. 1.27(a))--\$235.00
By other than a small entity--\$470.00

(c) Issue fee for issuing a plant patent:

By a small entity (Sec. 1.27(a))--\$315.00
By other than a small entity--\$630.00

Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

Page 4 of 4

Notice of Allowability	Application No.	Applicant(s)	
	09/657,635	GURACAR ET AL.	
	Examiner	Art Unit	
	Jaworski Francis J.	3737	

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address-
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amdt 7-23-02.
2. ☒ The allowed claim(s) is/are 1-16, 18-38.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

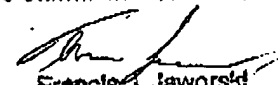
7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the top margin (not the back) of each sheet. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____ | 6 <input type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |


 Francis J. Jaworski
 Primary Examiner

To the U.S. Patent & Trademark Office

Please stamp the date of receipt of the following document(s) and return this postcard to us.

Atty Dkt.: 2000P82261US Atty.: JGK:HJG/rew

S/N: 09/657,635 Filed: 08/28/01

Inventor(s): Guracar, et al.

Title: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL DIAGNOSTIC
ULTRASOUND

X Response and Amendment to Office Action dated May 6, 2002

X Certificate of mailing dated: 7/17/02*Spersed
Mkt
11.7/02*To the U.S. Patent & Trademark Office

Please stamp the date of receipt of the following document(s) and return this postcard to us.

Atty Dkt.: 2000P82261US Atty.: JGK:HJG/rew

S/N: 09/657,635 Filed: 08/28/01

Inventor(s): Guracar, et al.

Title: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL DIAGNOSTIC
ULTRASOUND

X Response and Amendment to Office Action dated May 6, 2002

X Certificate of mailing dated: 7/17/02

**RECEIVED
CENTRAL FAX CENTER****JAN 11 2010**

I hereby certify that this correspondence is
being deposited with the United States Postal
Service as first class mail, with sufficient
postage, in an envelope addressed to:
Commissioner for Patents, Washington, D.C.
20231, on

Date of deposit

By: Raquel C. West

PATENT
CASE NO. 2000P82261US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application:)	
)	
Guracar et al.)	Examiner: F. Jaworski
)	
Serial No.: 09/657,635)	Group: 3737
)	
Filed: August 28, 2001)	
)	
For: CONTRAST IMAGING BEAM SEQUENCES)	
FOR MEDICAL DIAGNOSTIC ULTRASOUND)	

RESPONSE AND AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In response to the Office Action dated May 6, 2002, please enter the following
amendment and consider the following remarks:

AMENDMENT

Please rewrite claims 1-11, 21 and 27 as follows:

1. (amended) In a method of transmitting a sequence of transmit pulses for
scanning a region of a target including contrast agents, the improvement wherein:

a substantially similar energy sequence is provided for substantially each transmit scan line in the region of at least eight scan lines, where the energy sequence includes at least one collateral energy pulse between two imaging pulses.

2. (amended) The method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is equal to a flow sample count minus one.

3. (amended) The method of Claim 1 further comprising energy responsive to a destruction pulse where an image is responsive to the energy of the imaging pulses and substantially free of response to the energy of the destruction pulse.

4. (amended) The method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is two and a flow sample count that is three.

5. (amended) The method of Claim 4 comprising e eCeCeCe e where "e" represents a collateral energy pulse and "C" represents an imaging energy pulse.

6. (amended) The method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is three and a flow sample count that is four.

7. (amended) The method of Claim 6 comprising e eC eCeeCe Ce e where "e" represents a collateral energy pulse and "C" represents an imaging energy pulse.

8. (amended) The method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is three and a flow sample count that is three.

9. (amended) The method of Claim 8 comprising e eC eCe Ce e where "e" represents a collateral energy pulse and "C" represents a imaging energy pulse.

10. (amended) The method Claim 1 wherein the flow sample interleave ratio is an integer multiple of one less than a flow sample count.

11. (amended) A method for imaging contrast agents with an ultrasound system, the method comprising the acts of:

- (a) generating a substantially similar transmit pulse sequence for substantially each line in a scanned region of at least eight scan lines; and
- (b) interleaving collateral pulses from a transmission along a first scan line between at least two imaging pulses along a second different scan line, the transmit pulse sequence including energy from collateral pulses of adjacent scan lines and imaging pulses on each line.

21. (amended) A method for imaging contrast agents with an ultrasound system, the method comprising the acts of:

- (a) transmitting a first pulse along a first scan line;
- (b) transmitting a second pulse along a second scan line after (a), the second scan line adjacent the first scan line;
- (c) transmitting a third pulse along the first scan line after (b); and
- (d) repeating (a), (b) and (c) for a different set of scan lines such that a substantially same sequence of collateral and imaging pulses is provided for each of a plurality of scan lines including the scan lines of the different sets.

27. (amended) A method for imaging contrast agents with an ultrasound system, the method comprising:

- (a) transmitting pulses with a flow sample interleave ratio greater than one:



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/657,635	09/06/2000	Ignayil M. Guracar	2000P82261 US	1723
7590	08/12/2002		EXAMINER	
			JAWORSKI, FRANCIS J	
			ART UNIT	PAPER NUMBER
			3737	

DATE MAILED: 08/12/2002

Elsa Keller
SIEMENS CORPORATION
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The patent term adjustment to date is 181 days. If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the term adjustment will be 181 days.

If a continued prosecution application (CPA) was filed in the above-identified application, the filing date that determines patent term adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system. (<http://pair.uspto.gov>)



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/657,635	09/06/2000	Ismayil M. Guracar	2000P82261 US	1723
7590	08/12/2002		EXAMINER	
			JAWORSKI, FRANCIS J	
			ART UNIT	PAPER NUMBER
			3737	
DATE MAILED: 08/12/2002				

Elsa Keller
SIEMENS CORPORATION
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830
UNITED STATES

Notice of Fee Increase on October 1, 2002

If a reply to a "Notice of Allowance and Fee(s) Due" is filed in the Office on or after October 1, 2002, then the amount due may be higher than that set forth in the "Notice of Allowance and Fee(s) Due" since there will be an increase in fees effective on October 1, 2002. See Revision of Patent and Trademark Fees for Fiscal Year 2003: Notice of Proposed Rulemaking, 67 Fed. Reg. 30634, 30636 (May 7, 2002). Although a change to the amount of the publication fee is not currently proposed for October 2002, if the issue fee or publication fee is to be paid on or after October 1, 2002, applicant should check the USPTO web site for the current fees before submitting the payment. The USPTO Internet address for the fee schedule is: <http://www.uspto.gov/main/howtofees.htm>.

If the issue fee paid is the amount shown on the "Notice of Allowance and Fee(s) Due," but not the correct amount in view of the fee increase, a "Notice to Pay Balance of Issue Fee" will be mailed to applicant. In order to avoid processing delays associated with mailing of a "Notice to Pay Balance of Issue Fee," if the response to the Notice of Allowance and Fee(s) due form is to be filed on or after October 1, 2002 (or mailed with a certificate of mailing on or after October 1, 2002), the issue fee paid should be the fee that is required at the time the fee is paid. If the issue fee was previously paid, and the response to the "Notice of Allowance and Fee(s) Due" includes a request to apply a previously-paid issue fee to the issue fee now due, then the difference between the issue fee amount at the time the response is filed and the previously paid issue fee should be paid. See Manual of Patent Examining Procedure, Section 1308.01 (Eighth Edition, August 2001).

Effective October 1, 2002, 37 CFR 1.18 is proposed to be revised to change the patent issue fees as set forth below. As stated above, the final fees may be a different amount, and applicant should check the web site given above when paying the fee.

(a) Issue fee for issuing each original or reissue patent, except a design or plant patent:

By a small entity (Sec. 1.27(a))--\$655.00
By other than a small entity--\$1,310.00

(b) Issue fee for issuing a design patent:

By a small entity (Sec. 1.27(a))--\$235.00
By other than a small entity--\$470.00

(c) Issue fee for issuing a plant patent:

By a small entity (Sec. 1.27(a))--\$315.00
By other than a small entity--\$630.00

Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

Notice of Allowability

Application No.

09/657,635

Examiner

Jaworski Francis J.

Applicant(s)

GURACAR ET AL.

Art Unit

3737

The MAILING DATE of this communication appears on the cover sheet with the correspondence address—

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amdt 7-23-02.
2. ☒ The allowed claim(s) is/are 1-16, 18-38.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

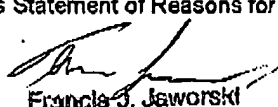
7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the top margin (not the back) of each sheet. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____ | 6 <input type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |


Francis J. Jaworski
Primary Examiner

To the U.S. Patent & Trademark Office

Please stamp the date of receipt of the following document(s) and return this postcard to us.

Atty Dkt.: 2000P82261US Atty.: JGK:HJG/rew

S/N: 09/657,635 Filed: 08/28/01

Inventor(s): Guracar, et al.

Title: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL DIAGNOSTIC
ULTRASOUND

X Response and Amendment to Office Action dated May 6, 2002

X Certificate of mailing dated: 7/17/02

*Speed
Post
7/17/02*

To the U.S. Patent & Trademark Office

Please stamp the date of receipt of the following document(s) and return this postcard to us.

Atty Dkt.: 2000P82261US Atty.: JGK:HJG/rew

S/N: 09/657,635 Filed: 08/28/01

Inventor(s): Guracar, et al.

Title: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL DIAGNOSTIC
ULTRASOUND

X Response and Amendment to Office Action dated May 6, 2002

X Certificate of mailing dated: 7/17/02



RECEIVED
CENTRAL FAX CENTER

JAN 11 2010

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on 7-17-73

Date of deposit

By: ~~Raquel~~ C. West

PATENT
CASE NO. 2000P82261US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application:

Guracar et al.

Serial No.: 09/657,635

Filed: August 28, 2001

For: CONTRAST IMAGING BEAM SEQUENCES)
FOR MEDICAL DIAGNOSTIC ULTRASOUND)

Examiner: F. Jaworski

Group: 3737

RESPONSE AND AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In response to the Office Action dated May 6, 2002, please enter the following amendment and consider the following remarks:

AMENDMENT

Please rewrite claims 1-11, 21 and 27 as follows:

1. (amended) In a method of transmitting a sequence of transmit pulses for scanning a region of a target including contrast agents, the improvement wherein:

a substantially similar energy sequence is provided for substantially each transmit scan line in the region of at least eight scan lines, where the energy sequence includes at least one collateral energy pulse between two imaging pulses.

2. (amended) The method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is equal to a flow sample count minus one.

3. (amended) The method of Claim 1 further comprising energy responsive to a destruction pulse where an image is responsive to the energy of the imaging pulses and substantially free of response to the energy of the destruction pulse.

4. (amended) The method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is two and a flow sample count that is three.

5. (amended) The method of Claim 4 comprising e eCeCeCe e where "e" represents a collateral energy pulse and "C" represents an imaging energy pulse.

6. (amended) The method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is three and a flow sample count that is four.

7. (amended) The method of Claim 6 comprising e eC eCeeCe Ce e where "e" represents a collateral energy pulse and "C" represents an imaging energy pulse.

8. (amended) The method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is three and a flow sample count that is three.

9. (amended) The method of Claim 8 comprising e eC eCe Ce e where “e” represents a collateral energy pulse and “C” represents a imaging energy pulse.

10. (amended) The method Claim 1 wherein the flow sample interleave ratio is an integer multiple of one less than a flow sample count.

11. (amended) A method for imaging contrast agents with an ultrasound system, the method comprising the acts of:

(a) generating a substantially similar transmit pulse sequence for substantially each line in a scanned region of at least eight scan lines; and

(b) interleaving collateral pulses from a transmission along a first scan line between at least two imaging pulses along a second different scan line, the transmit pulse sequence including energy from collateral pulses of adjacent scan lines and imaging pulses on each line.

21. (amended) A method for imaging contrast agents with an ultrasound system, the method comprising the acts of:

(a) transmitting a first pulse along a first scan line;

(b) transmitting a second pulse along a second scan line after (a), the second scan line adjacent the first scan line;

(c) transmitting a third pulse along the first scan line after (b); and

(d) repeating (a), (b) and (c) for a different set of scan lines such that a substantially same sequence of collateral and imaging pulses is provided for each of a plurality of scan lines including the scan lines of the different sets.

27. (amended) A method for imaging contrast agents with an ultrasound system, the method comprising:

(a) transmitting pulses with a flow sample interleave ratio greater than one;

- (b) generating a substantially similar imaging pulse and collateral pulse energy sequence for substantially each transmit line in a scanned region including at least eight transmit lines; and
- (c) sampling energy responsive to each transmitted pulse.

Please cancel claim 17.

REMARKS

The amendments to the rewritten claims are shown in the attached Appendix. In the Appendix, additions are underlined and deletions are indicated with brackets.

In the Office Action, the Examiner rejected claims 1-10 pursuant to 35 U.S.C. §101 as non-statutory subject matter. Claims 11-33 were rejected pursuant to 35 U.S.C. §103(a) as being unpatentable over Clark (U.S. Patent No. 5,980,458) in view of Poland (U.S. Patent No. 6,080,107) or over Hwang (U.S. Patent No. 6,193,662) in combination with Averkiou et al. (U.S. Patent No. 6,186,950). Claims 34-38 were rejected pursuant to 35 U.S.C. §103(a) as being unpatentable over Averkiou et al. or Hwang et al. (U.S. Patent No. 6,228,031). Applicants respectfully request reconsideration of claims 1-38, including independent claims 1, 11, 21, 27, 29 and 34.

Claims 1-10 have been amended to clarify that the sequence is part of a method of transmitting. Claims 1-10 claim statutory subject matter.

The pulse sequence limitation of some of the independent claims was also amended to more clearly indicate the pulses or energy considered as part of the pulse sequence. These amendments clarify the pulse sequence term already in the claims, so do not narrow the claims. Likewise, the amendments adding at least eight scan lines clarify the meaning of scanned region.

Claim 1 requires a substantially similar energy sequence for each of at least eight scan lines where the energy sequence includes a collateral energy pulse between two imaging pulses. None of the cited references disclose these.

Clark teaches an interleave transmit sequence of A1, B1, C1, A2, B2, C2, A3, B3, C3 and so on (col. 2, lines 35-44) where A, B and C are the scan lines and 1, 2 and 3 are the transmission number along that scan line. Further cited disclosure of Clark does not provide for another specific sequence. Using the sequence of Clark, each scan line A, B and C is subjected to a different energy or pulse sequence. Scan line A receives Ce Ce Ce; scan line B receives eCeeCeeCe and scan line C receives eC eC eC where "C" represents energy from an imaging pulse on the scan line and "e" represents energy from an imaging pulse along an adjacent scan line. Scan line C may receive additional collateral energy depending on the meaning of "and so on." Repeating this interleave sequence for other scan lines (e.g. D, E and F) merely results in continuing to introduce an artifact from differences in energy sequences, so does not result in substantially the same energy or pulse sequence. For example, scan line C would then receive eC eC eCe e e, still different than A and B. Clark does not disclose a substantially similar energy sequence for each of at least eight scan lines where the energy sequence includes a collateral energy pulse between two imaging pulses.

Poland, unlike Clark, discloses contrast agent imaging. Poland does not teach specific transmit sequences, so does not disclose a substantially similar energy sequence for each of at least eight scan lines where the energy sequence includes a collateral energy pulse between two imaging pulses.

Hwang '662 discloses various transmit sequences with a flow sample interleave ratio of one (see Figures 1-4). The pulses for each transmitted scan line are sequentially transmitted before transmitting along another scan line. Multiple receive scan lines are formed for each transmit line. Further sets of information may be formed by interpolating between received scan lines. The Examiner notes that the distinction between interleaved and collateral pulses in relation to scan lines is blurred because the interpolated lines are also referred to as scan lines. However, claim 1 is a sequence of transmit pulses where the energy sequence is for each transmit scan line. Hwang '662 does not suggest a substantially similar energy sequence for

each of at least eight transmit scan lines where the energy sequence includes a collateral energy pulse between two imaging pulses.

The cited disclosure of Averkiou et al. teaches a time interleaved contrast agent imaging transmit sequence (col. 7, lines 6-32). Transmit pulses along four adjacent scan lines are fired. This sequence is then repeated once or twice more for the same four scan lines using any of various phasing of the transmit waveforms. If the same sequence is then repeated for transmit scan lines 5-8, 9-12 . . . , the imaging and collateral energy sequence varies between transmit scan lines. Averkiou et al. do not teach repetition or how to repeat the sequence across the region. Averkiou et al. do not teach how to scan an entire region or more than four scan lines, so Averkiou et al. do not suggest a substantially similar energy sequence for each of at least eight transmit scan lines where the energy sequence includes a collateral energy pulse and imaging pulses.

Claim 11, like claim 1, requires generating a substantially similar transmit pulse sequence for substantially each line in a scanned region of at least eight scan lines where the transmit pulse sequence includes energy from collateral pulses and imaging pulses on each line. As discussed above, none of the cited references disclose this limitation.

Claim 21, similar to claim 11, requires repeating three transmissions along two scan lines for different sets of scan lines such that a substantially same sequence of collateral and imaging pulses is provided for each of the scan lines. Clark and Averkiou et al. teach a single sequence for multiple lines, but do not disclose repeating the sequence for other lines where the sequence is substantially the same for each of the scan lines in both different sets. If merely repeated for different sets, then the sequences of both Clark and Averkiou et al. provided for different collateral and imaging pulse sequences for different scan lines. As previously discussed with respect to claim 1, Poland does not suggest specific transmit sequences. Hwang '662 discloses in the Figures transmitting without interleaving, so does not suggest the claimed transmission sequence.

Claim 27 requires using a flow sample interleave ratio greater than one for generating a substantially similar imaging pulse and collateral pulse energy sequence for substantially each transmit line in a scanned region including at least eight scan lines. Clark provides different imaging and collateral pulse energy sequences for different transmit lines. Poland does not suggest specific transmit sequences. Hwang '662 does not suggest a flow sample interleave ratio greater than one for transmit scan lines. Averkiou et al. do not provide a substantially similar imaging pulse and collateral pulse energy sequence for each transmit line in a region including at least eight scan lines.

The dependent claims 2-10, 12-16, 18-20, 22-26 and 28 depend from the independent claims discussed above. Accordingly, these dependent claims are allowable for the reasons discussed above for the independent claims. Further limitations of the dependent claims distinguish these claims from the cited references. For example, none of the references disclose: a flow sample interleave ratio that is equal to an integer multiple of a flow sample count minus one as claimed in claims 2, 10, 12, 18, 22, 26 and 28; or the specific combinations of flow sample interleave ratio and flow sample count as claimed in claims 4-9, 14-16 and 23-25.

Claim 29 requires replacing signals of one scan line with signals of another scan line based on a comparison of an intensity with a value. The cited disclosure of Clark discloses parallel artifacts, but suggests filtering and transmit changes to generate images without these parallel artifacts (col. 4, line 10-col. 6, line 9). Clark contemplates application to an entire image, so does not suggest comparison and replacement based on the comparison.

Poland determines a concentration of contrast agent and adjustment of characteristics of the acoustic imaging signals based on the concentration (col. 4, lines 6-15). For example, the receive signal amplitude is reduced or the transmit power is changed (col. 4, lines 15-24). Depletion transmissions may be used to control the concentration of contrast agent (col. 5, line 63-col. 6, line 29). Poland does not suggest replacing signals of one scan line with signals of another scan line based on a comparison.

Hwang '662 discloses pulse inversion scanning (col. 2, lines 33-40). Data for different receive scan lines of opposite phase are combined (col. 3, lines 4-16). For interpolated lines, axial re-sampling or filtering is used to remove an artifact (col. 6, lines 19-55). In one embodiment, multi-line interpolation motion artifact is avoided by using a transmit sequence (col. 10, lines 13-28). The Examiner does not cite to disclosure by Hwang '662 of any replacement of data based on a comparison.

Averkiou et al. disclose a motion artifact resulting from using two transmissions to a same area (col. 3, lines 1-48). To address this motion artifact, Averkiou et al. transmit at least one further pulse (col. 3, lines 49-56). The signals responsive to the three pulses are then combined for imaging (col. 4, lines 8-28). Averkiou et al. use three or more transmissions for reducing the motion artifact, so do not suggest replacing signals of one scan line based on a comparison. Furthermore, a user of the system in a two pulse mode would not compare the intensities to a value in order to switch to the three pulse mode. Averkiou et al. do not suggest the limitations of claim 29.

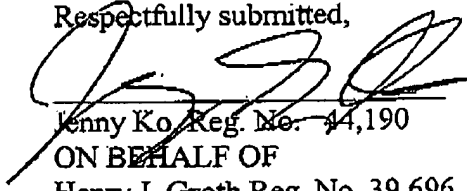
Claim 34, similar to claim 29, requires identifying signals associated with an image artifact and replacing the signals as a function of signals responsive to contrast agents. As discussed above, Averkiou et al. use a specific process to avoid artifacts, so do not suggest replacing signals associated with artifacts. Where a user switches between modes, signals are not replaced. Instead, different imaging is performed.

Hwang et al. '031 disclose avoiding a picket fence artifact by filtering or averaging received scan line data (col. 4, lines 41-54). The system does not identify an artifact and then replace signals. A user switching between modes due to viewing an artifact does not cause replacement of signals, but merely sets up different imaging.

CONCLUSION:

Applicants respectfully submit that all of the pending claims are in condition for allowance and seeks early allowance thereof. If for any reason, the Examiner is unable to allow the application but believes that an interview would be helpful to resolve any issues, he is respectfully requested to call Henry Groth at (650) 943-7350 or Craig Summerfield at (312) 321-4726.

Respectfully submitted,


Jenny Ko, Reg. No. 44,190

ON BEHALF OF

Henry J. Groth Reg. No. 39,696

Attorney for Applicants

Siemens Corporation
Intellectual Property Department
186 Wood Avenue South
Iselin, N.J. 08830

Dated: July 17, 2002

APPENDIX

1. (amended) In a method of transmitting a sequence of transmit pulses for scanning a region of a target including contrast agents, the improvement wherein:
a substantially similar energy sequence is provided for substantially each transmit scan line in the region of at least eight scan lines, where the energy sequence includes at least one collateral energy pulse between two imaging pulses.
2. (amended) The [sequence] method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is equal to a flow sample count minus one.
3. (amended) The [sequence] method of Claim 1 further comprising energy responsive to a destruction pulse where an image is responsive to the energy of the imaging pulses and substantially free of response to the energy of the destruction pulse.
4. (amended) The [sequence] method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is two and a flow sample count that is three.
5. (amended) The [sequence] method of Claim 4 comprising e eCeCeCe e where "e" represents a collateral energy pulse and "C" represents an imaging energy pulse.
6. (amended) The [sequence] method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is three and a flow sample count that is four.
7. (amended) The [sequence] method of Claim 6 comprising e eC eCeeCe Ce e where "e" represents a collateral energy pulse and "C" represents an imaging energy pulse.

8. (amended) The [sequence] method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is three and a flow sample count that is three.

9. (amended) The [sequence] method of Claim 8 comprising e eC eCe Ce e where “e” represents a collateral energy pulse and “C” represents a imaging energy pulse.

10. (amended) The [sequence] method Claim 1 wherein the flow sample interleave ratio is an integer multiple of one less than a flow sample count.

11. (amended) A method for imaging contrast agents with an ultrasound system, the method comprising the acts of:

(a) generating a substantially similar transmit pulse sequence for substantially each line in a scanned region of at least eight scan lines; and

(b) interleaving collateral pulses from a transmission along a first scan line between at least two imaging pulses along a second different scan line, the transmit pulse sequence including energy from collateral pulses of adjacent scan lines and imaging pulses on each line.

21. (amended) A method for imaging contrast agents with an ultrasound system, the method comprising the acts of:

(a) transmitting a first pulse along a first scan line;
(b) transmitting a second pulse along a second scan line after (a), the second scan line adjacent the first scan line;

(c) transmitting a third pulse along the first scan line after (b); and

(d) repeating (a), (b) and (c) for a different set of scan lines such that a substantially same sequence of collateral and imaging pulses is provided for each of a plurality of scan lines including the scan lines of the different sets.

27. (amended) A method for imaging contrast agents with an ultrasound system, the method comprising:

- (a) transmitting pulses with a flow sample interleave ratio greater than one;
- (b) generating a substantially similar imaging pulse and collateral pulse energy sequence for substantially each transmit line in a scanned region including at least eight transmit lines; and
- (c) sampling energy responsive to each transmitted pulse.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/657,635	09/06/2000	Ismayil M. Guracur	2000P82261 US	1723

7590

05/06/2002

Elsa Keller
SIEMENS CORPORATION
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830

RECEIVED

MAY 13 2002

INTELLECTUAL PROPERTY
DEPARTMENT

EXAMINER

JAWORSKI, FRANCIS J

ART UNIT

PAPER NUMBER

3737

DATE MAILED: 05/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

INTELLECTUAL PROPERTY
REC'D.
IPD 2000P82261US
DUE DATE 8-6-02

RECEIVED

MAY 15 2002

INTELLECTUAL PROPERTY DEPT.
WEST COAST

Office Action Summary

09/657,635

GURACAR ET AL.

Examiner

Art Unit

Jaworski Francis J.

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11 - 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark (US5980458) in view of Poland (US6080107).

The former is directed to interleaved collateral transmissions as per col. 2 line 3 - col. 4 line 5 and/or as supplemented col. 4 line 9 - col. 6 line 8. It would have been obvious in view of the



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/657,635	09/06/2000	Ismayil M. Guracar	2000P82261 US	1723
7590	08/12/2002		EXAMINER	
			JAWORSKI, FRANCIS J	
			ART UNIT	PAPER NUMBER
			3737	

Elsa Keller
SIEMENS CORPORATION
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830

DATE MAILED: 08/12/2002

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The patent term adjustment to date is 181 days. If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the term adjustment will be 181 days.

If a continued prosecution application (CPA) was filed in the above-identified application, the filing date that determines patent term adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) system. (<http://pair.uspto.gov>)



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/657,635	09/06/2000	Ismayil M. Guracar	2000P82261 US	1723
7590	08/12/2002		EXAMINER	
			JAWORSKI, FRANCIS J	
			ART UNIT	PAPER NUMBER
			3737	
DATE MAILED: 08/12/2002				

Elsa Keller
SIEMENS CORPORATION
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830
UNITED STATES

Notice of Fee Increase on October 1, 2002

If a reply to a "Notice of Allowance and Fee(s) Due" is filed in the Office on or after October 1, 2002, then the amount due may be higher than that set forth in the "Notice of Allowance and Fee(s) Due" since there will be an increase in fees effective on October 1, 2002. See Revision of Patent and Trademark Fees for Fiscal Year 2003: Notice of Proposed Rulemaking, 67 Fed. Reg. 30634, 30636 (May 7, 2002). Although a change to the amount of the publication fee is not currently proposed for October 2002, if the issue fee or publication fee is to be paid on or after October 1, 2002, applicant should check the USPTO web site for the current fees before submitting the payment. The USPTO Internet address for the fee schedule is: <http://www.uspto.gov/main/howtofees.htm>.

If the issue fee paid is the amount shown on the "Notice of Allowance and Fee(s) Due," but not the correct amount in view of the fee increase, a "Notice to Pay Balance of Issue Fee" will be mailed to applicant. In order to avoid processing delays associated with mailing of a "Notice to Pay Balance of Issue Fee," if the response to the Notice of Allowance and Fee(s) due form is to be filed on or after October 1, 2002 (or mailed with a certificate of mailing on or after October 1, 2002), the issue fee paid should be the fee that is required at the time the fee is paid. If the issue fee was previously paid, and the response to the "Notice of Allowance and Fee(s) Due" includes a request to apply a previously-paid issue fee to the issue fee now due, then the difference between the issue fee amount at the time the response is filed and the previously paid issue fee should be paid. See Manual of Patent Examining Procedure, Section 1308.01 (Eighth Edition, August 2001).

Effective October 1, 2002, 37 CFR 1.18 is proposed to be revised to change the patent issue fees as set forth below. As stated above, the final fees may be a different amount, and applicant should check the web site given above when paying the fee.

(a) Issue fee for issuing each original or reissue patent, except a design or plant patent:

By a small entity (Sec. 1.27(a))--\$655.00
By other than a small entity--\$1,310.00

(b) Issue fee for issuing a design patent:

By a small entity (Sec. 1.27(a))--\$235.00
By other than a small entity--\$470.00

(c) Issue fee for issuing a plant patent:

By a small entity (Sec. 1.27(a))--\$315.00
By other than a small entity--\$630.00

Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

Notice of Allowability

Application No.

09/657,635

Examiner

Jaworski Francis J.

Applicant(s)

GURACAR ET AL.

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amdt 7-23-02.
2. ☒ The allowed claim(s) is/are 1-16, 18-38.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ Including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the top margin (not the back) of each sheet. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____ | 6 <input type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |

Francis J. Jaworski
Primary Examiner

To the U.S. Patent & Trademark Office

Please stamp the date of receipt of the following document(s) and return this postcard to us.

Atty Dkt.: 2000P82261US Atty.: JGK:HJG/row

S/N: 09/657,635 Filed: 08/28/01

Inventor(s): Guracar, et al.

Title: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL DIAGNOSTIC
ULTRASOUND

X Response and Amendment to Office Action dated May 6, 2002

X Certificate of mailing dated: 7/17/02

*Spaced
Out
7/17/02*

To the U.S. Patent & Trademark Office

Please stamp the date of receipt of the following document(s) and return this postcard to us.

Atty Dkt.: 2000P82261US Atty.: JGK:HJG/row

S/N: 09/657,635 Filed: 08/28/01

Inventor(s): Guracar, et al.

Title: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL DIAGNOSTIC
ULTRASOUND

X Response and Amendment to Office Action dated May 6, 2002

X Certificate of mailing dated: 7/17/02



RECEIVED
CENTRAL FAX CENTER

JAN 11 2010

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on

7/17/02
Date of deposit

By: Raquel C. West

PATENT
CASE NO. 2000P82261US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application:

Guracar et al.

Serial No.: 09/657,635

Filed: August 28, 2001

For: CONTRAST IMAGING BEAM SEQUENCES
FOR MEDICAL DIAGNOSTIC ULTRASOUND)

Examiner: F. Jaworski

Group: 3737

RESPONSE AND AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In response to the Office Action dated May 6, 2002, please enter the following amendment and consider the following remarks:

AMENDMENT

Please rewrite claims 1-11, 21 and 27 as follows:

1. (amended) In a method of transmitting a sequence of transmit pulses for scanning a region of a target including contrast agents, the improvement wherein:

a substantially similar energy sequence is provided for substantially each transmit scan line in the region of at least eight scan lines, where the energy sequence includes at least one collateral energy pulse between two imaging pulses.

2. (amended) The method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is equal to a flow sample count minus one.

3. (amended) The method of Claim 1 further comprising energy responsive to a destruction pulse where an image is responsive to the energy of the imaging pulses and substantially free of response to the energy of the destruction pulse.

4. (amended) The method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is two and a flow sample count that is three.

5. (amended) The method of Claim 4 comprising e eCeCeCe e where "e" represents a collateral energy pulse and "C" represents an imaging energy pulse.

6. (amended) The method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is three and a flow sample count that is four.

7. (amended) The method of Claim 6 comprising e eC eCeeCe Ce e where "e" represents a collateral energy pulse and "C" represents an imaging energy pulse.

8. (amended) The method of Claim 1 responsive to the transmit pulses characterized by a flow sample interleave ratio that is three and a flow sample count that is three.

9. (amended) The method of Claim 8 comprising e eC eCe Ce e where "e" represents a collateral energy pulse and "C" represents a imaging energy pulse.

10. (amended) The method Claim 1 wherein the flow sample interleave ratio is an integer multiple of one less than a flow sample count.

11. (amended) A method for imaging contrast agents with an ultrasound system, the method comprising the acts of:

- (a) generating a substantially similar transmit pulse sequence for substantially each line in a scanned region of at least eight scan lines; and
- (b) interleaving collateral pulses from a transmission along a first scan line between at least two imaging pulses along a second different scan line, the transmit pulse sequence including energy from collateral pulses of adjacent scan lines and imaging pulses on each line.

21. (amended) A method for imaging contrast agents with an ultrasound system, the method comprising the acts of:

- (a) transmitting a first pulse along a first scan line;
- (b) transmitting a second pulse along a second scan line after (a), the second scan line adjacent the first scan line;
- (c) transmitting a third pulse along the first scan line after (b); and
- (d) repeating (a), (b) and (c) for a different set of scan lines such that a substantially same sequence of collateral and imaging pulses is provided for each of a plurality of scan lines including the scan lines of the different sets.

27. (amended) A method for imaging contrast agents with an ultrasound system, the method comprising:

- (a) transmitting pulses with a flow sample interleave ratio greater than one;

(b) generating a substantially similar imaging pulse and collateral pulse energy sequence for substantially each transmit line in a scanned region including at least eight transmit lines; and

(c) sampling energy responsive to each transmitted pulse.

Please cancel claim 17.

REMARKS

The amendments to the rewritten claims are shown in the attached Appendix. In the Appendix, additions are underlined and deletions are indicated with brackets.

In the Office Action, the Examiner rejected claims 1-10 pursuant to 35 U.S.C. §101 as non-statutory subject matter. Claims 11-33 were rejected pursuant to 35 U.S.C. §103(a) as being unpatentable over Clark (U.S. Patent No. 5,980,458) in view of Poland (U.S. Patent No. 6,080,107) or over Hwang (U.S. Patent No. 6,193,662) in combination with Averkiou et al. (U.S. Patent No. 6,186,950). Claims 34-38 were rejected pursuant to 35 U.S.C. §103(a) as being unpatentable over Averkiou et al. or Hwang et al. (U.S. Patent No. 6,228,031). Applicants respectfully request reconsideration of claims 1-38, including independent claims 1, 11, 21, 27, 29 and 34.

Claims 1-10 have been amended to clarify that the sequence is part of a method of transmitting. Claims 1-10 claim statutory subject matter.

The pulse sequence limitation of some of the independent claims was also amended to more clearly indicate the pulses or energy considered as part of the pulse sequence. These amendments clarify the pulse sequence term already in the claims, so do not narrow the claims. Likewise, the amendments adding at least eight scan lines clarify the meaning of scanned region.

Claim 1 requires a substantially similar energy sequence for each of at least eight scan lines where the energy sequence includes a collateral energy pulse between two imaging pulses. None of the cited references disclose these.

Clark teaches an interleave transmit sequence of A1, B1, C1, A2, B2, C2, A3, B3, C3 and so on (col. 2, lines 35-44) where A, B and C are the scan lines and 1, 2 and 3 are the transmission number along that scan line. Further cited disclosure of Clark does not provide for another specific sequence. Using the sequence of Clark, each scan line A, B and C is subjected to a different energy or pulse sequence. Scan line A receives Ce Ce Ce; scan line B receives eCeeCeeCe and scan line C receives eC eC eC where "C" represents energy from an imaging pulse on the scan line and "e" represents energy from an imaging pulse along an adjacent scan line. Scan line C may receive additional collateral energy depending on the meaning of "and so on." Repeating this interleave sequence for other scan lines (e.g. D, E and F) merely results in continuing to introduce an artifact from differences in energy sequences, so does not result in substantially the same energy or pulse sequence. For example, scan line C would then receive eC eC eCe e e, still different than A and B. Clark does not disclose a substantially similar energy sequence for each of at least eight scan lines where the energy sequence includes a collateral energy pulse between two imaging pulses.

Poland, unlike Clark, discloses contrast agent imaging. Poland does not teach specific transmit sequences, so does not disclose a substantially similar energy sequence for each of at least eight scan lines where the energy sequence includes a collateral energy pulse between two imaging pulses.

Hwang '662 discloses various transmit sequences with a flow sample interleave ratio of one (see Figures 1-4). The pulses for each transmitted scan line are sequentially transmitted before transmitting along another scan line. Multiple receive scan lines are formed for each transmit line. Further sets of information may be formed by interpolating between received scan lines. The Examiner notes that the distinction between interleaved and collateral pulses in relation to scan lines is blurred because the interpolated lines are also referred to as scan lines. However, claim 1 is a sequence of transmit pulses where the energy sequence is for each transmit scan line. Hwang '662 does not suggest a substantially similar energy sequence for

SIEMENS

Fax

To:	Special Programs Examiner Attn: Examiner Yuen	From:	Vicki Chia
Fax:	571-273-4856	Title:	Patent Assistant to Jenny G. Ko
Date:	January 11, 2010	Company:	Siemens Corporation
# Pages:	64 (including cover sheet)	Dept:	Intellectual Property
		Phone:	650-694-5333
		Fax:	650-968-4517
		Email:	Vicki.chia@siemens.com
RE:	Recreation of appln. 09/657,635 (attorney docket no. 2000P82261US)		

Message:

Per your conversation with Jenny G. Ko regarding the re-creation of the above referenced application, attached is a copy of our file. If there are any questions or problems, please contact me or Jenny G. Ko (jenny.ko@siemens.com, 650-694-5810). Thank you!

Kind regards,

Vicki Chia

Siemens Corporation

1230 Shorebird Way, Bldg. 3
Mountain View, CA 94043

www.siemens.com

To the U.S. Patent & Trademark Office

Please stamp the date of receipt of the following document(s) and return this card to us.

Atty Dkt No. 2000P82261US

Atty: LAM/sea

Application No.: UnassignedFiled: Herewith

Bad !

Inventor(s): Ismayil Guracar, et al.

Title: **CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL
DIAGNOSTIC ULTRASOUND**☒ Request for Status of Application☒ Certificate of Mailing dated: October 14, 2005To the U.S. Patent & Trademark Office

Please stamp the date of receipt of the following document(s) and return this card to us.

Atty Dkt No. 2000P82261US

Atty: LAM/sea

Application No.: Unassigned,

Filed: Herewith

Inventor(s): Ismayil Guracar, et al.

Title: **CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL
DIAGNOSTIC ULTRASOUND**☒ Request for Status of Application☒ Certificate of Mailing dated: October 14, 2005

JAN 11 2010

Attorney Docket No.: 2000P82261US

Certificate of Mailing

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope address to:
Commissioner for Patents and Trademarks, P.O. Box 1450, Alexandria, VA 22313-1450

Sara E. Armstrong 10/14/05
By: Sara E. Armstrong Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application:

Ismayil Guracar, et al.

Application No.: 09/657,635

Filed: September 6, 2000

For: CONTRAST IMAGING BEAM SEQUENCE
FOR MEDICAL DIAGNOSTIC
ULTRASOUND

Examiner: Francis J. Jaworski

Group: 3737

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR STATUS OF APPLICATION

Sir:

Applicant hereby requests status of the above-identified application. Applicant has not yet received a response to a prior status inquiry, faxed November 1, 2004.

On September 22, 2003, we resubmitted a Petition to Withdraw Holding of Abandonment based on failure to Receive Office Action, and a Petition for Revival of an Application for Patent Abandoned Unintentionally, both of which were originally submitted to the PTO on 6/9/03. We have not received any further communication from the U.S. Patent and Trademark Office since that time.

Please advise Applicant's attorney of the present status of the above application.

PLEASE MAIL CORRESPONDENCE TO:

Siemens Corporation
Customer No. 28524
Attn: Elsa Keller, Legal Administrator
170 Wood Avenue South
Iselin, NJ 08830

Respectfully submitted,

Peter Lam
Peter Lam, Registration No. 44,855
Attorney for Applicant
Telephone: 650-943-7350
Date: 10/14/05

Attorney Docket No.: 2000P82261US

RECEIVED
CENTRAL FAX CENTER
JAN 11 2010

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Guracar, et al.) Examiner: Francis Jaworski
App No.: 09/657,635) Group Art Unit: 3737
Filing Date: August 28, 2001)
For: CONTRAST IMAGING BEAM)
SEQUENCES FOR MEDICAL)
DIAGNOSTIC ULTRASOUND)

REQUEST FOR STATUS OF APPLICATIONCertificate of Facsimile Transmission

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I hereby certify that this correspondence is being facsimile transmitted under 37 CFR 1.8 to the US Patent and Trademark Office on the below listed date to the below listed fax number.

Date: 11/1/04
Fax Number: 703-872-9306
No. of Pages: 1 total page
By: Cynthia Reese

Cynthia Reese

Sir:

Applicant hereby requests status of the above-identified application.

On September 22, 2003, we resubmitted a Petition to Withdraw Holding of Abandonment based on failure to Receive Office Action, and a Petition for Revival of an Application for Patent Abandoned Unintentionally both of which were originally submitted to the PTO on 6/9/03, but have not received any further communication from the U.S. Patent and Trademark Office since that time.

Please advise Applicant's attorney of the present status of the above application.

PLEASE MAIL CORRESPONDENCE
TO:

Siemens Corporation
Customer No. 28524
Attn: Elsa Keller, Legal Administrator
170 Wood Avenue South
Iselin, NJ 08830

Respectfully submitted,

Peter Lam
Peter Lam, Registration No. 44,855
Attorney for Applicant
Telephone: 650-943-7350
Date: 11/1/04

To the U.S. Patent & Trademark Office

Please stamp the date of receipt of the following document(s) and return this card to us.

Atty. Dkt. No.: 00P82261US

Atty: Henry Groth

Serial No.: 09/657,635

Filed: 8/28/01

Inventor(s): Guracar, et al.

Title: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL DIAGNOSTIC ULTRASOUND

RESUBMISSION OF

1. Petition to Withdraw Holding of Abandonment Based on Failure to Receive Office Action
Petition for Revival of an Application for Patent Abandoned Unintentionally

IPASed ON**BY****VWC**

Attorney Docket No.: 2000P82261US

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to: Mail Stop Petitions, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

9/22/03
Date

Cynthia Reese

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Guracar, et. al.

Group Art Unit: 3737

Application No.: 09/657,635

Examiner: F. Jaworski

Filed: August 28, 2001

For: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL DIAGNOSTIC
ULTRASOUND

Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESUBMITTAL OF

PETITION TO WITHDRAW HOLDING OF ABANDONMENT BASED ON
FAILURE TO RECEIVE OFFICE ACTIONPETITION FOR REVIVAL OF AN APPLICATION
FOR PATENT ABANDONED UNINTENTIONALLY
UNDER 37 C.F.R. § 1.137(b)

We are resubmitting this petition because it is our understanding (per our conversation on 9/12/03 with Examiner Frank Jaworski) that the PTO records do not indicate PTO receipt of the previous petition we submitted to the PTO on 6/9/03. We are including the original mail certification from the petition that was submitted on 6/9/03.

The above-identified application became abandoned for Applicant's failure to pay the required issue fee within the statutory period of three months from the mailing date of the Notice of Allowance.

Applicant hereby petitions for withdrawal of the Patent Office's abandonment determination for this application based on the following circumstances. The Notice of Abandonment dated 12/26/2002 states that Applicant has failed to timely pay the required

Attorney Docket No.: 2000P82261US

issue fee within the statutory period of three months from the mailing date of the Notice of Allowance. However, Applicant never received the Notice of Allowance.

Therefore, through no fault of the applicant, the Patent Office has deemed this application abandoned. Persistence with this abandonment determination by the Patent Office would, in our view, be inequitable due to the inability of the Applicant to timely submit the issue fee when the Applicant never received the Notice of Allowance. Applicant strongly urges the Patent Office to pursue the equitable and just course of withdrawing the abandonment determination for this application. Should the Patent Office concur with our recommendation to withdraw the determination of abandonment for this application, Applicant believes that no fees are due on our part.

Applicant hereby authorizes the Patent Office to charge any fees or credit any overpayments to Deposit Account No. 19-2179, including the issue fee and payment for ten (10) copies of the granted patent. We have attached an internally generated issue fee transmittal with this petition, but as indicated above have not received the notice of allowance.

However, if the Commissioner disagrees with Applicant's request to withdraw the finding of abandonment, Applicant petitions for revival of the application pursuant to 37 C.F.R. 1.137(b). In this latter circumstance, the Commissioner is authorized to charge any fees or credit any overpayments to Deposit Account No. 19-2179, including the fee for revival per fee required in 37 C.F.R. 1.17(m). Applicant also asserts that the delay in payment of the issue fee from Dec. 26, 2002 through this date was unintentional. A duplicate copy of this authorization is enclosed for charging the deposit account.

Date: 9/18/2003

Respectfully requested,

SIEMENS CORPORATION
Intellectual Property Department
170 Wood Avenue South
Iselin, New Jersey 08830
ATTENTION: Elsa Keller, IP Department
Telephone: (732) 321-3026

By: Henry J. Groth
Henry J. Groth
Registration No. 39,696
Attorney for Applicants
Tel: 650-943-7350
Fax: 650-968-4517

To the U.S. Patent & Trademark Office
Please stamp the date of receipt of the following document(s) and return his card to us.

Atty. Dkt. No.: 00P82261US
Serial No.: 09657,635

Atty: Henry Groth
Filed: 8/28/01

Inventor(s): Guracar, et al.
Title: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL DIAGNOSTIC ULTRASOUND

1. Petition to Withdraw Holding of Abandonment Based on Failure to Receive Office Action
Petition for Revival of an Application for Patent Abandoned Unintentionally



Attorney Docket No.: 2000P82261US

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to: Mail Stop Petitions, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

6/9/03
Date
Cynthia Reese
Cynthia Reese

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Guracar, et. al.

Group Art Unit: 3737

Application No.: 09/657,635

Examiner: F. Jaworski

Filed: August 28, 2001

For: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL DIAGNOSTIC
ULTRASOUND

Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION TO WITHDRAW HOLDING OF ABANDONMENT BASED ON
FAILURE TO RECEIVE OFFICE ACTIONPETITION FOR REVIVAL OF AN APPLICATION
FOR PATENT ABANDONED UNINTENTIONALLY
UNDER 37 C.F.R. § 1.137(b)

The above-identified application became abandoned for Applicant's failure to pay the required issue fee within the statutory period of three months from the mailing date of the Notice of Allowance.

Applicant hereby petitions for withdrawal of the Patent Office's abandonment determination for this application based on the following circumstances. The Notice of Abandonment dated 12/26/2002 states that Applicant has failed to timely pay the required issue fee within the statutory period of three months from the mailing date of the Notice of Allowance. However, Applicant never received the Notice of Allowance.

Therefore, through no fault of the applicant, the Patent Office has deemed this application abandoned. Persistence with this abandonment determination by the Patent Office would, in our view, be inequitable due to the inability of the Applicant to timely submit the issue fee when the Applicant never received the Notice of Allowance.

Attorney Docket No.: 2000P82261US

Applicant strongly urges the Patent Office to pursue the equitable and just course of withdrawing the abandonment determination for this application. Should the Patent Office concur with our recommendation to withdraw the determination of abandonment for this application, Applicant believes that no fees are due on our part.

Applicant hereby authorizes the Patent Office to charge any fees or credit any overpayments to Deposit Account No. 19-2179, including the issue fee and payment for ten (10) copies of the granted patent. We have attached an internally generated issue fee transmittal with this petition, but as indicated above have not received the notice of allowance.

However, if the Commissioner disagrees with Applicant's request to withdraw the finding of abandonment, Applicant petitions for revival of the application pursuant to 37 C.F.R. 1.137(b). In this latter circumstance, the Commissioner is authorized to charge any fees or credit any overpayments to Deposit Account No. 19-2179, including the fee for revival per fee required in 37 C.F.R. 1.17(m). Applicant also asserts that the delay in payment of the issue fee from Dec. 26, 2002 through this date was unintentional. A duplicate copy of this authorization is enclosed for charging the deposit account.

Respectfully submitted,



Henry J. Groth

Reg. No. 39,696

Attorney for Applicant

650-943-7350

Date: 5/24/2003

SIEMENS Corporation
IPD-West Coast
1230 Shorebird Way, Bldg. 4
P.O. Box 7393
Mountain View, CA 94039-7393

ATTORNEY'S TICKET NO.: 2000P82261US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Guracar, et al.

Examiner: F. Jaworski

Serial No.: 09/657,635

Group Art Unit: 3737

Filing Date: August 28, 2001

Title: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL
DIAGNOSTIC ULTRASOUND

Mail Stop Petitions
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

ISSUE FEE TRANSMITTAL

Sir:

Applicant hereby authorizes the Patent Office to charge any fees or credit any overpayments to Deposit Account No. 19-2179, including the issue fee and payment for 10 copies of the granted patent.

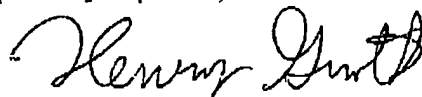
Date:

6/9/2003

Respectfully requested,

SIEMENS CORPORATION
Intellectual Property Department
170 Wood Avenue South
Iselin, New Jersey 08830
ATTENTION: Elsa Keller, IP Department
Telephone: (732) 321-3026

By:



Henry J. Groth
Registration No. 39,696
Attorney for Applicants
Tel.: 650-943-7350
Fax: 650-968-4517

To the U.S. Patent & Trademark Office

Please stamp the date of receipt of the following document(s) and return this card to us.

Atty. Dkt. No.: 00P82261US
Serial No.: 09057,635

Atty: Henry Groth
Filed: 8/28/01

Inventor(s): Guracar, et al.

Title: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL DIAGNOSTIC ULTRASOUND

1. Petition to Withdraw Holding of Abandonment Based on Failure to Receive Office Action
Petition for Revival of an Application for Patent Abandoned Unintentionally



Attorney Docket No.: 2000P82261US

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to: Mail Stop Petitions, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

6/9/03
Date
Cynthia Reese
Cynthia Reese

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Guracar, et. al.

Group Art Unit: 3737

Application No.: 09/657,635

Examiner: F. Jaworski

Filed: August 28, 2001

For: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL DIAGNOSTIC
ULTRASOUND

Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**PETITION TO WITHDRAW HOLDING OF ABANDONMENT BASED ON
FAILURE TO RECEIVE OFFICE ACTION**

**PETITION FOR REVIVAL OF AN APPLICATION
FOR PATENT ABANDONED UNINTENTIONALLY
UNDER 37 C.F.R. § 1.137(b)**

The above-identified application became abandoned for Applicant's failure to pay the required issue fee within the statutory period of three months from the mailing date of the Notice of Allowance.

Applicant hereby petitions for withdrawal of the Patent Office's abandonment determination for this application based on the following circumstances. The Notice of Abandonment dated 12/26/2002 states that Applicant has failed to timely pay the required issue fee within the statutory period of three months from the mailing date of the Notice of Allowance. However, Applicant never received the Notice of Allowance.

Therefore, through no fault of the applicant, the Patent Office has deemed this application abandoned. Persistence with this abandonment determination by the Patent Office would, in our view, be inequitable due to the inability of the Applicant to timely submit the issue fee when the Applicant never received the Notice of Allowance.


Attorney Document No.: 2000P82261US

Applicant strongly urges the Patent Office to pursue the equitable and just course of withdrawing the abandonment determination for this application. Should the Patent Office concur with our recommendation to withdraw the determination of abandonment for this application, Applicant believes that no fees are due on our part.

Applicant hereby authorizes the Patent Office to charge any fees or credit any overpayments to Deposit Account No. 19-2179, including the issue fee and payment for ten (10) copies of the granted patent. We have attached an internally generated issue fee transmittal with this petition, but as indicated above have not received the notice of allowance.

However, if the Commissioner disagrees with Applicant's request to withdraw the finding of abandonment, Applicant petitions for revival of the application pursuant to 37 C.F.R. 1.137(b). In this latter circumstance, the Commissioner is authorized to charge any fees or credit any overpayments to Deposit Account No. 19-2179, including the fee for revival per fee required in 37 C.F.R. 1.17(m). Applicant also asserts that the delay in payment of the issue fee from Dec. 26, 2002 through this date was unintentional. A duplicate copy of this authorization is enclosed for charging the deposit account.

Respectfully submitted,



Henry J. Groth

Reg. No. 39,696

Attorney for Applicant

650-943-7350

Date: 5/24/2003

SIEMENS Corporation
IPD-West Coast
1230 Shorebird Way, Bldg. 4
P.O. Box 7393
Mountain View, CA 94039-7393

ATTORNEY'S CHECK NO.: 2000P82261US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Guracar, et al.

Examiner: F. Jaworski

Serial No.: 09/657,635

Group Art Unit: 3737

Filing Date: August 28, 2001

Title: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL
DIAGNOSTIC ULTRASOUND

Mail Stop Petitions
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

ISSUE FEE TRANSMITTAL

Sir:

Applicant hereby authorizes the Patent Office to charge any fees or credit any overpayments to Deposit Account No. 19-2179, including the issue fee and payment for 10 copies of the granted patent.

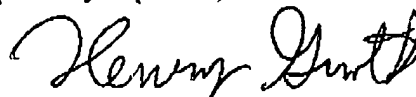
Date:

6/9/2003

Respectfully requested,

SIEMENS CORPORATION
Intellectual Property Department
170 Wood Avenue South
Iselin, New Jersey 08830
ATTENTION: Elsa Keller, IP Department
Telephone: (732) 321-3026

By:



Henry J. Groth
Registration No. 39,696
Attorney for Applicants
Tel: 650-943-7350
Fax: 650-968-4517



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/657,635	09/06/2000	Ismayil M. Guracar	2000P82261 US	1723

7590

12/26/2002

H86
Elsa Keller
SIEMENS CORPORATION
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830

DATA
ENTERED

INTELLECTUAL PROPERTY

REC'D. 1-3-02

IPD 2000P82261 US

DUE DATE

EXAMINER

JAWORSKI, FRANCIS J

ART UNIT

PAPER NUMBER

3737

P#8

DATE MAILED: 12/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

JAN 07 2003

INTELLECTUAL PROPERTY DEPT
WEST GRAB


UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

 Address: COMMISSIONER OF PATENTS AND TRADEMARKS
 Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
--------------------	-------------	-----------------------	---------------------

09/10/07, 6:15

EXAMINER

ART UNIT	PAPER NUMBER
----------	--------------

PH-8

DATE MAILED:

NOTICE OF ABANDONMENT

This application is abandoned in view of:

- ☐ Applicant's failure to timely file a proper response to the Office letter mailed on _____.
- ☐ A response (with a Certificate of Mailing or Transmission of _____) was received on _____, which is after the expiration of the period for response (including a total extension of time of _____ month(s)) which expired on _____.
- ☐ A proposed response was received on _____, but it does not constitute a proper response to the final rejection.

(A proper response to a final rejection consists only of: a timely filed amendment which places the application in condition for allowance; a Notice of Appeal; or the filing of a continuing application under 37 CFR 1.62 (FWC).)

- ☐ No response has been received.

- ☒ Applicant's failure to timely pay the required issue fee within the statutory period of three months from the mailing date of the Notice of Allowance.

- ☐ The issue fee (with a Certificate of Mailing or Transmission of _____) was received on _____.
- ☐ The submitted issue fee of \$_____ is insufficient. The issue fee required by 37 CFR 1.18 is \$_____.
- ☒ The issue fee has not been received.

- ☐ Applicant's failure to timely file new formal drawings as required in the Notice of Allowability.

- ☐ Proposed new formal drawings (with a Certificate of Mailing or Transmission of _____) were received on _____.
- ☐ The proposed new formal drawings filed _____ are not acceptable.
- ☐ No proposed new formal drawings have been received.

- ☐ The express abandonment under 37 CFR 1.62(g) in favor of the FWC application filed on _____.
- ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.
- ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a) upon the filing of a continuing application.
- ☐ The decision by the Board of Patent Appeals and Interferences rendered on _____ and because the period for seeking court review of the decision has expired and there are no allowed claims.
- ☐ The reason(s) below:

**ABANDONMENT
 CONTACT PERSON IS:
 TOM HAWKINS**



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

7590
Elsa Keller
SIEMENS CORPORATION
Intellectual Property Department
186 Wood Avenue South
Iselin, NJ 08830

INTELLECTUAL PROPERTY

REC'D.

8-19-02

2000P82261US

IF-11-12-02

EXAMINER

JAWORSKI, FRANCIS J

ART UNIT

CLASS-SUBCLASS

3737

600-458000

DATE MAILED: 08/12/2002

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/657,635	09/06/2000	Ismayil M. Guracar	2000P82261 US	1723

TITLE OF INVENTION: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL DIAGNOSTIC ULTRASOUND

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1280	\$0	\$1280	11/12/2002

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above. If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is changed, pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above and notify the United States Patent and Trademark Office of the change in status, or

B. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check the box below and enclose the PUBLICATION FEE and 1/2 the ISSUE FEE shown above.

☐ Applicant claims SMALL ENTITY status.
See 37 CFR 1.27.

AUG 23 2002

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Box ISSUE FEE
Commissioner for Patents
Washington, D.C. 20231
Fax (703)746-4000

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

7590

08/12/2002

Elsa Keller
 SIEMENS CORPORATION
 Intellectual Property Department
 186 Wood Avenue South
 Iselin, NJ 08830

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Box Issue Fee address above, or being facsimile transmitted to the USPTO, on the date indicated below.

(Depositor's name)

(Signature)

(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/657,635	09/06/2000	Ismayil M. Guracar	2000P82261 US	1723

TITLE OF INVENTION: CONTRAST IMAGING BEAM SEQUENCES FOR MEDICAL DIAGNOSTIC ULTRASOUND

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1280	\$0	\$1280	11/12/2002

EXAMINER	ART UNIT	CLASS-SUBCLASS
JAWORSKI, FRANCIS J	3737	600-458000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
 2 _____
 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent)

☐ individual ☐ corporation or other private group entity ☐ government

4a. The following fee(s) are enclosed:

4b. Payment of Fee(s):

☐ Issue Fee

☐ Publication Fee

☐ Advance Order - # of Copies _____

☐ A check in the amount of the fee(s) is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Commissioner is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

Commissioner for Patents is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.

(Authorized Signature)

(Date)

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMIT THIS FORM WITH FEE(S)

PTOL-85 (REV. 04-02) Approved for use through 01/31/2004. OMB 0651-0033

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PAGE 20/20 * RCVD AT 1/11/2010 2:12:20 PM [Eastern Standard Time] * SVR:USPTO-EFXXF-5/1 * DNIS:2734856 * CSID:6509684517 * DURATION (mm-ss):05:20